

Your reference: 98-022A

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PATENT OF INVENTION

DEPARTMENT
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Gr. 5 - Class. 6

No. 980.892

Device for entrainment of the landing entrance of an elevator or freight elevator by the cabin door, permitting its closing or obtaining the reopening with a limited force

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*(Patent of Invention, the granting of which was carried out in execution of Article 11, § 7,
of the law of July 5, 1844, modified by the law of April 7, 1902.)*

It is known that there are devices that make the cabin door and the landing entrance of an elevator or freight elevator stop at the floor. Thus, if the cabin door is activated by a motor during opening as well as during closing, the automatic nature of the landing entrance is also assured (see in particular Patent No. 867,592 of June 28, 1940 and Patent No. 931,541 of July 30, 1946, filed by the Company). The disadvantage is that this connection is difficult to assure without play and that, because of this, it leads to a fairly costly mechanism. Moreover, special dispositions must be made to prevent a person from being caught when the door is closed.

The object of the present invention is to remedy these disadvantages and to always allow the closing of the cabin door or landing entrances to be under control of the user, who will have to expend only a slight force on the landing entrance to maintain them open or to put them into an opening movement.

For this purpose, the landing entrance supposedly with one leaf (but the invention may also apply to doors with several conjugated leaves or vertically sliding ones) is equipped with a counterweight, the return motion always taking it back to the closing position.

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Figure 1 represents a rolling door which is equipped with a tappet 16. The control mechanism of the landing entrance can be an endless chain device represented schematically. On the cabin door, there is a corner iron equipped with two contacts 14 and 15, and when the landing entrance and the cabin are closed, the tappet 16 passes freely between them during the vertical movement of the cabin.

When the cabin is stopped at a landing, the cabin door begins to open, being displaced in the direction of arrow 10 (Figure 1) at a low speed. Contact 15 is flattened, the landing entrance is entrained by tappet 16 and the counterweight 7 rises again.

The electrical diagram showing the action of contacts 14 and 15 (which are closed by compression) is represented in Figure 6. The contactor O activating the motor in the direction of "opening" is fed by switch 17, conductor 18 and locking control 22 of the contactor. Contact 14 remains open during the opening movement and is without action.

The closing of contact 15 under the effect of the pressure of the corner iron, carried by the landing entrance, is without action on the contactor of opening O. The feed circuit of contactor F is cut at 21 and 19. At the end of the course, switch 17 is opened mechanically and the door stops.

The movement of closing is commanded by contactor F, which is fed by locking control 21 [sic, should be 22.] Translator] of relay O, contact 15 and switch 19 commanding the movement.

Contact 15 is maintained closed because of the preponderance of counterweight 7, the landing entrance following the movement of the cabin door - at the same speed.

If a user desires to stop the movement of closing, it is sufficient for him to stop the landing entrance (the edge of which slightly goes beyond that of the cabin, in order to facilitate this maneuver). The contact 15 is open, contactor F de-excited and the movement stops. The locking control 22 is closed. By pushing the landing entrance slightly in the direction of "opening", contact 14 closes, which causes feeding of contactor O, commanding opening, and this occurring while contact 14 is closed. Thus the opening of the doors to the desired extent is produced. By letting go of the landing entrance, the closing movement

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begins again unless the door is taken to its complete opening position, which causes opening of switch 19.

The control mechanism of opening and closing of the cabin door must be sufficiently irreversible, so that the counterweight of the landing entrance does not make the doors close when the current is disconnected.

In the case of elevators installed in sheaths with "smooth wall", that is, without a cabin door, it is sufficient to allow the control system of it to remain (Figure V).

The invention is applicable to doors with several conjugated leaves, as well as lifting doors in freight elevators. In the latter case, the corner iron of entrainment must be reset during movement. One can see that the opening of the doors can take place during [letters missing in French text] arrival at a floor.

PATENT CLAIM

Device with the purpose of making the doors of elevators or freight elevators, attached to the cabin doors or skip [bucket?], being displaced horizontally or vertically. A counterweight[?] assures the closing of the landing entrance, which limits the force required for closing. An electrical contact stops the closing movement and a [illegible] at opening when the users act[?] on the landing entrance. [Translator's note: questions are due to letters that are missing on the right side of French text.]

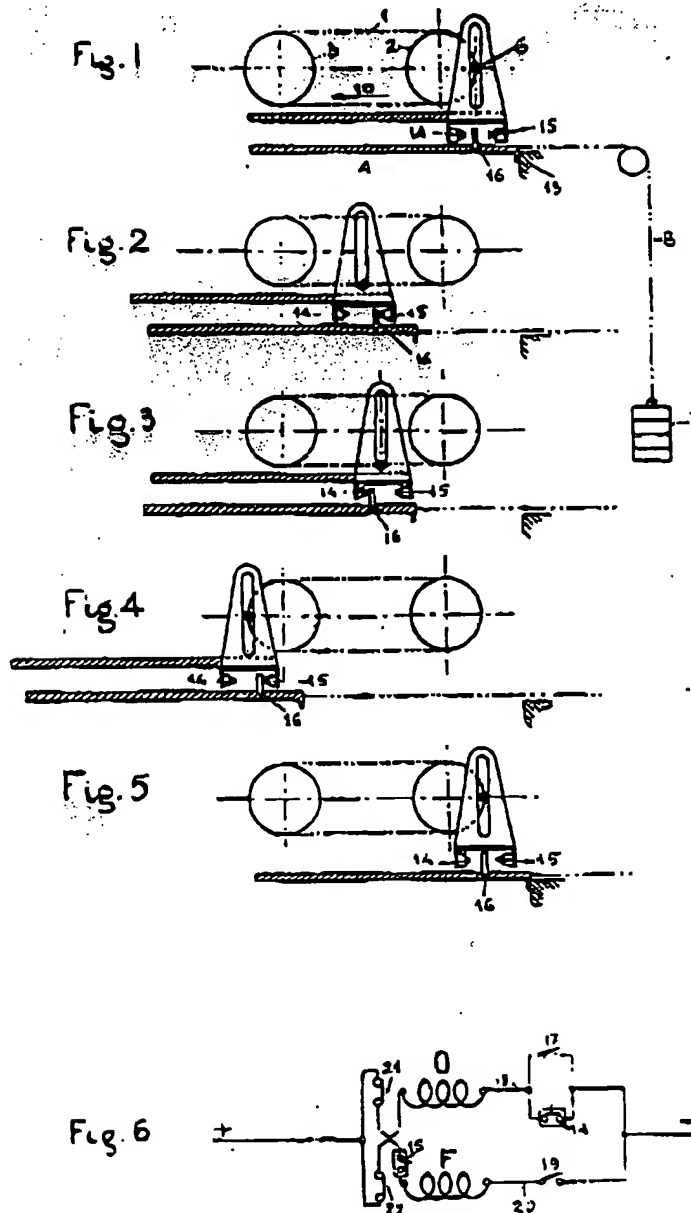
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Single plate

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